FlyBy Math™ Alignment
2007 Mississippi Mathematics Framework

Content Strand: Number and Operations

Competency 1. Apply concepts and perform basic operations using real numbers in real-world context.

Objectives/Benchmarks	***FlyBy Math*™ Activities**
i. Solve proportions, including unit rate, scale, and measurement. Apply proportional reasoning to real-world problems.	--Apply mathematics to solving distance, rate, and time problems for aircraft conflict scenarios.
l. Use estimation to determine the reasonableness of results in a variety of situations.	--Predict outcomes and explain results of mathematical models and experiments.

Content Strand: Algebra

Competency 2. Use properties to formulate and simplify algebraic expressions, solve linear equations and inequalities and apply principles of graphing.

Objectives/Benchmarks	***FlyBy Math*™ Activities**
a. Translate real-life situations into algebraic expressions, equations, or inequalities, and vice versa.	--Represent distance, speed, and time relationships for constant speed cases using tables, bar graphs, line graphs, equations, and a Cartesian coordinate system.
f. Using function tables, graph simple linear equations and common non-linear equations (i.e., $y=x^2$.)	--Represent distance, speed, and time relationships for constant speed cases using linear equations and a Cartesian coordinate system. --Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.
g. Given a linear graph, identify its slope as positive, negative, undefined, or zero, and interpret slope as rate of change.	--Represent distance, speed, and time relationships for constant speed cases using linear equations and a Cartesian coordinate system. --Interpret the slope of a line in the context of a distance-rate-time problem.

Content Strand: Measurement

Competency 4. Understand measurable attributes of objects and apply various formulas in problem solving situations.

Objectives/Benchmarks	***FlyBy Math*™ Activities**
a. Convert, perform basic operations, and solve real-world application problems using standard measurements.	--Calculate and measure the position and time of simulated aircraft. Represent that motion using tables, graphs, equations, and experimentation.
b. Apply appropriate techniques and tools to determine measurements.	--Calculate and measure the position and time of simulated aircraft. Represent that motion using tables, graphs, equations, and experimentation. --Conduct simulation and measurement for several aircraft conflict problems.

Content Strand: Data Analysis and Probability

Competency 5. Interpret, organize, and make predictions about a variety of data using concepts of probability.

Objectives/Benchmarks	***FlyBy Math*™ Activities**
a. Construct and interpret histograms, bar graphs, line graphs, frequency tables, circle graphs, stem-and-leaf plots, box-and-whisker plots, and scatter plots from given data.	--Represent distance, rate, and time data using tables, line plots, bar graphs, and line graphs. --Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.
b. Predict patterns or generalize trends based on given data.	--Use tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.
g. Collect data. Select and justify the most appropriate representations to organize, record and communicate data.	--Conduct simulation and measurement for several aircraft conflict problems. --Choose among tables, bar graphs, line graphs, a Cartesian coordinate system, and equations to model aircraft conflicts and predict outcomes.